

MECHANICAL LEGEND	
SYMBOL	DESCRIPTION
PLAN-VIEW LINE TYPES	
	WORK SHOWN DASHED INDICATES EXISTING WORK TO REMAIN OR NEW WORK BY OTHERS AS APPLICABLE
	WORK SHOWN BOLD-CONTINUOUS INDICATES NEW WORK
PIPING LINE TYPES	
	REFRIGERANT LIQUID
	REFRIGERANT SUCTION
	CONDENSATE DRAIN
MECHANICAL AIR DEVICES	
	SUPPLY REGISTER
	RETURN GRILLE
	CEILING DIFFUSER
	2 1/2" SQUARE CEILING DIFFUSER WITH 10° NECK
MECHANICAL DUCTWORK	
	SUPPLY DUCT WITH ELBOW TURNED UP
	SUPPLY DUCT WITH ELBOW TURNED DOWN
	RETURN DUCT WITH ELBOW TURNED UP
	RETURN DUCT WITH ELBOW TURNED DOWN
	EXHAUST DUCT WITH ELBOW TURNED UP
	EXHAUST DUCT WITH ELBOW TURNED DOWN
	24x12 SA SUPPLY DUCT
	24x12 RA RETURN DUCT
	24x12 EA EXHAUST DUCT
	24x12 OA OUTSIDE AIR DUCT
	1" LINED DUCTWORK
	BRANCH TAKEOFF
	REDUCER, CONCENTRIC

MECHANICAL LEGEND	
SYMBOL	DESCRIPTION
MECHANICAL DUCTWORK ACCESSORIES	
	ROUND ELBOW WITH TURNING VANES
	DUCT MOUNTED SMOKE DETECTOR (HARD WIRE INTERLOCK TO FAN MOTOR BY E.C.) FURNISHED BY E.C., INSTALLED BY M.C.
MECHANICAL STATS & SENSORS	
	TEMPERATURE SENSOR
	LOW VOLTAGE THERMOSTAT
MECHANICAL MISCELLANEOUS	
	CONNECT TO EXISTING (FIELD VERIFY EXISTING UTILITY SERVICE TYPE, PRIOR TO MAKING CONNECTION)

FIELD VERIFY ALL CONDITIONS

DESIGN DRAWINGS ARE SCHEMATIC. THIS CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING OR AWARD OF CONTRACT TO INSPECT EXISTING FIELD CONDITIONS. THIS CONTRACT SHALL INCLUDE ALL LABOR AND MATERIALS NECESSARY FOR FIELD MODIFICATIONS DUE TO EXISTING CONDITIONS.

THE CONTRACTOR SHALL CONTACT THE ARCHITECT, ENGINEER OR OWNER PRIOR TO BIDDING FOR INTERPRETATIONS AND CLARIFICATIONS OF THE DESIGN AND INCLUDE IN HIS BID ALL COSTS TO MEET THE DESIGN INTENT. CLARIFICATIONS MADE BY THE ARCHITECT, ENGINEER OR OWNER AFTER BIDDING WILL BE FINAL AND SHALL BE IMPLEMENTED AT CONTRACTORS COST.

BIDDING CONTRACTORS SHALL HAVE A WORKING KNOWLEDGE OF LOCAL CODES AND ORDINANCES AND SHALL INCLUDE IN THEIR BIDS THE COSTS FOR ALL WORK INSTALLED IN STRICT ACCORDANCE WITH GOVERNING CODES, THE PLANS AND SPECIFICATIONS NOT WITHSTANDING. THE CONTRACTOR SHALL ALERT ARCHITECT, ENGINEER OR OWNER OF ANY APPARENT DISCREPANCIES BETWEEN GOVERNING CODES AND DESIGN INTENT.

- KEYED NOTES**
- M01 REMOVE EXISTING SPLIT SYSTEM, PROVIDE AND INSTALL NEW SPLIT SYSTEM IN SAME LOCATION. ROUTE REFRIGERANT LINES THROUGH EXISTING CHASE OR ROUTE TO AVOID ABOVE TENANT. BALANCE NEW SPLIT SYSTEM AS SCHEDULED. ALL ROOF WORK TO BE DONE BY A LANDLORD APPROVED ROOFING CONTRACTOR. ROUTE CONDENSATE TO MOP SINK AND TERMINATE WITH AIR GAP.
 - M02 PROVIDE NEW CEILING MOUNTED EXHAUST FAN WITH INTEGRAL BACKDRAFT DAMPER AS SCHEDULED. BALANCE AS SCHEDULED. BALANCE TO THE SCHEDULED AIRFLOW. EXTEND AND CONNECT NEW EXHAUST DUCTWORK TO EXISTING EXHAUST DUCTWORK. FIELD VERIFY EXACT LOCATION OF CONNECTION PRIOR TO BID.
 - M03 PROVIDE NEW PROGRAMMABLE THERMOSTATS IN MANAGERS OFFICE WITH REMOTE SENSORS AT LOCATION INDICATED ON PLANS. COORDINATE EXACT LOCATION WITH TENANT, OR TENANT'S REPRESENTATIVE, PRIOR TO INSTALLATION. WIRE TO AIR HANDLER PER MANUFACTURER'S PRINTED INSTRUCTIONS.
 - M04 EXTEND AND CONNECT NEW OUTSIDE AIR DUCT TO EXISTING OUTSIDE AIR DUCT. FIELD VERIFY LOCATION PRIOR TO BID.
 - M05 PROVIDE INLINE SUPPLY FAN TO OUTSIDE AIR. FAN TO BE CONTROLLED BY AIR HANDLER AND TO ACTIVATE DURING OCCUPIED MODE. BALANCE TO OUTSIDE AIR SHOWN IN SCHEDULES. DURING UNOCCUPIED MODE, FAN TO DEACTIVATE AND MOTOR DAMPER TO CLOSE.

LANDLORD NOTE

ONLY METAL DUCTWORK TO BE INSTALLED. DUCT SMOKE DETECTOR FOR THE TENANT WORK SHALL BE OF THE SAME MANUFACTURER (SIEMENS) AND COMPATIBLE WITH THE LANDLORD'S BUILDING SYSTEM. LANDLORD'S FIRE ALARM CONTRACTOR SHALL MAKE FINAL CONNECTIONS BETWEEN TENANT'S FIRE ALARM SYSTEM AND LANDLORD'S FIRE ALARM SYSTEMS AT CONTRACTOR'S SOLE COST AND EXPENSE. PROVIDE SNAP ON PIPES AND PHENOLIC LABELS AT DISCONNECT AND ALL TOP EQUIPMENT. FOLLOW MALL STANDARDS. INSTALL ALL TOP EQUIPMENT CURB. FASTEN TO UNIT WITH (5) #10x1" TEK SCREWS AND TO CURB WITH (5) #10x1" TEK SCREWS. DO NOT INSTALL STRIP AT A LOCATION THAT MIGHT DAMAGE UNIT OR PREVENT MAINTENANCE ON UNIT.

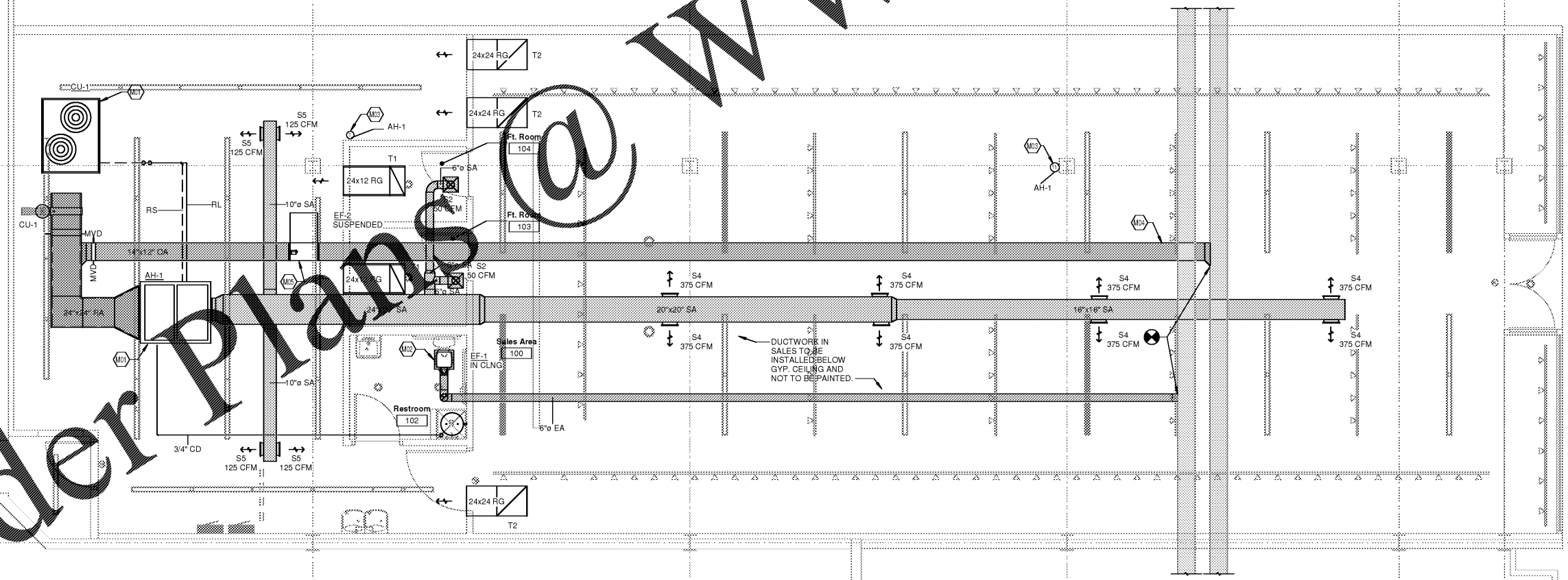
- NEW WORK GENERAL NOTES**
- PROVIDE ALL LABOR, MATERIAL, AND EQUIPMENT NECESSARY TO COMPLETELY FURNISH, INSTALL, AND PLACE INTO OPERATION, ALL SYSTEMS SHOWN ON THE DRAWINGS AND DELINEATED IN THE SPECIFICATIONS IN ACCORDANCE WITH ALL STATE AND LOCAL CODES AND ORDINANCES. REPORT ANY KNOWN DISCREPANCIES TO THE ARCHITECT/ENGINEER PRIOR TO INSTALLATION.
 - REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF CEILING DIFFUSERS, REGISTERS AND GRILLES.
 - DO NOT SCALE DRAWINGS; REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONED LOCATIONS OF WALLS, DOORS, WINDOWS, AND CABINETS.
 - COORDINATE WORK AND SPACE REQUIREMENTS IN CEILING SPACES WITH OTHER TRADES PRIOR TO INSTALLATION.
 - COORDINATE LOCATIONS AND ORIENTATION OF ROOF MOUNTED EQUIPMENT WITH ARCHITECTURAL AND STRUCTURAL DRAWINGS. COORDINATE WALL LOUVERS WITH ARCHITECTURAL ELEVATIONS AND DETAILS.
 - PROVIDE VOLUME DAMPERS AT ALL SUPPLY, RETURN, AND EXHAUST DUCT BRANCH TAKE-OFFS.
 - PROVIDE TURNING VANES IN ALL 90 DEGREE MITERED ELBOWS. OMIT TURNING VANES IN ACOUSTIC LINED RETURN DUCT ELBOWS.
 - SIZES OF ACOUSTIC LINED DUCTS ARE NET INSIDE DIMENSIONS. INCREASE SHEET METAL SIZE ACCORDINGLY.
 - RUNOUTS TO CEILING DIFFUSERS ARE THE SAME SIZE AS THE DIFFUSER NECK UNLESS NOTED OTHERWISE.
 - INSTALL ALL EQUIPMENT WITH CODE APPROVED AND MANUFACTURER RECOMMENDED MINIMUM CLEARANCES FOR SERVICE, ACCESS, AND FIRE PROTECTION.
 - MAINTAIN A MINIMUM OF 10 FEET BETWEEN ALL OUTSIDE AIR INTAKES, ALL EXHAUST, VENT, AND FLUE OUTLETS.
 - ALL MATERIALS EXPOSED WITHIN PLenums SHALL BE NON-COMBUSTIBLE. SHALL HAVE A FLAME SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE DEVELOPMENT INDEX OF NOT MORE THAN 50 WHEN TESTED IN ACCORDANCE WITH ASTM E 84.
 - ALL FLOOR PENETRATIONS SHALL BE COORDINATED WITH THE CONCRETE REINFORCEMENT FLOOR STRUCTURE.

- DEMOLITION GENERAL NOTES**
- REMOVE EXISTING DUCTWORK, CONTROLS, AND MISCELLANEOUS HVAC EQUIPMENT NOT INTENDED FOR REUSE. FIELD VERIFY THE EXACT SCOPE PRIOR TO BID. COORDINATE ALL DEMOLITION WORK WITH THE LANDLORD AND GENERAL CONTRACTOR.

KLH ENGINEERS
MECHANICAL/ELECTRICAL ENGINEERS
WWW.KLHENGERS.COM
1538 ALEXANDRIA PIKE, SUITE 111 FT. THOMAS, KENTUCKY 41075 800-354-9783 859-442-8050
LEXINGTON, KENTUCKY COLUMBUS, OHIO NEW YORK, NEW YORK
rgh solutions, inc.
12501 River Road, Ste 125
Orland Park, IL 60176
P: 847.671.7452
F: 847.671.4200
www.rgha.com

REVISIONS	DATE
ISSUE FOR BID, CLIENT, LANDLORD AND PERMIT	10/27/2017

robert g. lyon + associates, inc.
ARCHITECTURE
9100 Blue Ridge Parkway
Schiller Park, IL 60176
P: 847.671.7452
F: 847.671.4200
www.rgha.com



1 MECHANICAL PLAN
1/4" = 1'-0"

OWNERSHIP OF INSTRUMENTS OF SERVICE
All reports, plans, specifications, computer files, field data, notes and other documents and instruments prepared by the Consultant as instruments of service shall remain the property of the Consultant. The Consultant shall retain all common law, statutory and other reserved rights, including, without limitation, the copyright therein.

THE ABOVE DRAWINGS AND SPECIFICATIONS AND DEAD, DESIGN AND ARRANGEMENTS REPRESENTED THEREIN ARE AND SHALL REMAIN THE PROPERTY OF THIS OFFICE AND NO PART THEREOF SHALL BE COPIED, DISCLOSED TO OTHERS OR USED IN THE CONNECTION WITH ANY WORK OR PROJECT OTHER THAN THE SPECIFIC PROJECT FOR WHICH THEY HAVE BEEN PREPARED AND DEVELOPED WITHOUT THE WRITTEN CONSENT OF THIS OFFICE. VISUAL CONTACT WITH THESE DRAWINGS OR SPECIFICATIONS SHALL CONSTITUTE CONCLUSIVE EVIDENCE OF ACCEPTANCE OF THESE RESTRICTIONS. WRITTEN DIMENSIONS ON THESE DRAWINGS SHALL HAVE PRECEDENCE OVER SCALE DIMENSIONS. CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS AND CONDITIONS ON THE JOB AND THIS OFFICE MUST BE NOTIFIED OF ANY VARIATIONS FROM THE DIMENSIONS AND CONDITIONS SHOWN BY THESE DRAWINGS. SUCH NOTICES MUST BE SUBMITTED TO THIS OFFICE FOR APPROVAL BEFORE PROCEEDING WITH FABRICATION.

©2017 RGLA SOLUTIONS, INC.
©2017 ROBERT G. LYON & ASSOCIATES, INC.

THE NORTH FACE
AVENTURA MALL
19501 BISCAYNE BLVD
SPACE #327
AVENTURA, FL 33180

MECHANICAL
DUCTWORK - LEVEL 1

DRAWN BY	BJC
CHECKED BY	KCN
JOB NUMBER	19811
SHEET NAME	M1.1